



**PROFESSIONAL SERVICES
 PROCUREMENT BULLETIN
 2010-10
 STATEWIDE
 GEOTECHNICAL DRILLING**

COUNTY	Statewide
PROJECT DESCRIPTION	To Provide Geotechnical Drilling Services on an as needed basis.
PROJECT MANAGER	Bart Asher, PE
USER DIVISION	Department of Highway Design
APPROXIMATE FEE	<p>\$2,000,000.00 (Upset Limit) per Contract Agreement. \$250,000 Limit per Letter of Agreement Four (4) Drilling Firms will be selected for Statewide Agreements. The contract period is each firm receiving a two-year contract.</p>
PROJECT FUNDING	State and Federal Funds
PURPOSE AND NEED	To provide Statewide Geotechnical Drilling Services on an as needed basis to help expedite the completion of projects and effectively handle estimated work load on a statewide basis during FY 2011 and 2012.
DBE REQUIREMENT	None

SPECIAL INSTRUCTIONS

Four (4) firms will be selected to provide these services Statewide on a rotating basis regardless of which region the project is located in. A proposal is to be submitted for drilling projects throughout the state. The contract period is for a two-year period. Contracts will have an upset limit of \$2,000,000. Once the upset limit is reached or the two year term has expired, services will be re-advertised and no additional work assignments will be made under the contract. Contracts will not be modified to increase upset limit or extended for time to assign new work. No letter of agreement shall exceed \$250,000.

The firms will be selected based on the firms proposal for drilling projects throughout the state and the Evaluation Factors as shown on page eleven (11). **EACH FIRM IS TO COMPLETE THE ATTACHED EVALUATION FACTORS FORM AND IT IS TO BE INCLUDED IN THE FIRMS PROPOSAL. FAILURE TO INCLUDE THE FORM IN THE PROPOSAL WILL RESULT IN THE DISQUALIFICATION OF THE FIRM AND THE FIRM WILL NOT BE CONSIDERED FOR A GEOTECHNICAL DRILLING SERVICES CONTRACT.** The Firm will need to document past performance in the proposal. The link for the Evaluation factors form to be filled out by each Firm is **LOCATED ON PAGE (11)**.

Once the four (4) firms have been chosen, they will be ranked in consecutive order (1-4) by being placed in a pool, randomly drawn and listed in consecutive order (1-4). This order will determine the numerical order in which projects will be offered to firms on a rotating basis regardless of the region. Firms will not be offered an additional project until the remaining firms on the list have been offered a project. If a firm turns down a project, it will be offered to the next firm in consecutive order and so on until the project is accepted. If a firm declines a project or does not respond to an invitation to perform services for a project within 2 workdays, from the date the Department offers a project, then documentation shall be placed in the project files noting the project was declined and the next firm in the list shall be offered the project, etc. Firms will not be penalized for not accepting a project, regardless of reason. The four (4) firms will be notified and asked to submit the CURRENT Average Audited Wage Rates, (including overhead and 15% profit) for their Driller and Helper. The current \$0.58 Mileage rate for a 4X4 Pickup truck as specified in the [KYTC direct cost allowable rate policy dated 9-29-09](#) applies in order to determine unit prices. KYTC Published Rates have been set for some items and Production Rates have been set for each region. The link to the rates sheet is **LOCATED ON PAGE (11)**.

These unit prices once set, will be in effect for the life of this two (2) year contract.

SPECIAL INSTRUCTIONS CONT'D

If all four (4) firms turn down a project then the Department has the option of increasing the price of the unit prices for items (1 - 18) by 10 % for each firm and offering the project to the firms again in the same order. The Department has the option of continuing to increase by 10% and offering the project to the firms again in the same order until the project is accepted.

Cost of Drilling items on floating equipment shall be paid by taking the land rate for the company doing the drilling plus 50 percent.

Cost of Drilling items for drilling with drilling mud shall be paid by taking the land rate for the company doing the drilling plus 20 percent. All mud drilling must be pre-approved in writing.

Cost of Drilling items for Angle holes shall be paid by taking the land rate for the company doing the drilling plus 40 percent.

Cost of Drilling items for drilling at depths greater than 80 feet shall be paid by taking the land rate for the company doing the drilling plus 30 percent. This will apply to each additional 80 foot interval. See example below. The cost of drilling at depth does not apply to the rock coring price.

Example:

Unit Price of each item from 0 to 80 is (X).

Unit Price of each item from 81 to 160 is (1.3(X)).

Unit Price of each item from 161 to 240 is (1.6(X)).

Unit Price of each item form 241 to 320 is (1.9(X)).

Where X is the unit price of the drilling item on land.

If more than one cost increase applies to an item it shall be done as listed below. Say mud drilling, barge drilling, and depth increases are used.

Unit Price of each item from 0 to 80 is $(X + 0.5X + 0.2X) = 1.7X$

Unit Price of each item from 81 to 160 is $(1.3(X) + 0.5X + 0.2X) = 2X$

Unit Price of each item from 161 to 240 is $(1.6(X) + 0.5X + 0.2X) = 2.3X$

Unit Price of each item form 241 to 320 is $(1.9(X) + 0.5X + 0.2X) = 2.6X$

SCOPE

2010 GENERAL SPECIFICATIONS

Region 1 - (Districts 1,2,3 and 4)

Region 2- (Districts 5, 6, 7, 8 and 9)

Region 3- (Districts 10, 11 and 12)

1. The Department of Highways will provide the boring plan, and staking of holes for the projects. The drilling firms shall provide their own traffic control. The traffic control shall be provided by a certified traffic control firm or the Drilling company if they have certified traffic control personnel.

Flagging by the Department will only be made available when personnel and time schedules can be coordinated.

All flagging shall be done according to the Manual on Uniform Traffic Control Devices. Guidelines can be found at the following web site: http://mutcd.fhwa.dot.gov/pdfs/2009/pdf_index.htm . If a consultant's drill crew wants to provide their own flag-personnel, then they must follow the guidelines listed below.

Traffic Control (In House)

This activity shall be paid at the unit cost per hour for two laborers, including expenses and travel, plus the cost of any necessary rental equipment (include copy of invoice) to provide flagging for the geotechnical drill and crew. Provide a copy of certification for each flag-personnel on the job. The following materials or others not listed may also be used when necessary, but will require approval from the Department. Rental materials are paid for at actual cost (with receipts).

1. Moveable Signs
2. Electronic Message Boards
3. Traffic Cones
4. Barrels

Subcontracted Traffic Control-This item shall be paid as invoiced by the vendor (include actual invoices), plus \$100.00 to account for any administrative expenses. Time shall not be included for the drill or drill crew. Vendor personnel shall be certified and provide all necessary equipment, including mobilization and demobilization, lodging, meals necessary to provide flagging for the geotechnical drill and crew.

The drilling firms must obtain written permission from the Department prior to obtaining a traffic control firm.

The drilling firms will be responsible for obtaining all utilities locations, right of entry from the property owners; however, in case of refusal, the firm should request assistance from the TEBM for Project Development in the applicable District.

SCOPE CONT'D

Property owner permissions

The Department will pay 2 hours per parcel needed to be entered on for drilling operations. If guard rail is required to be removed the Department will pay \$200.00 for the removal and temporary replacement per location.

The drilling firms must obtain written permission from the Department prior to removing guard rail.

2. The drilling work cannot be subcontracted without written approval from the Department and only to a pre-qualified firm.
3. Drilling shall begin on a project within ten (10) calendar days from the date of notification unless otherwise agreed to by the Department.
4. If the firm and the Department of Highways are in agreement, more than one drill crew may be utilized at the same time on larger projects. A minimum crew is considered to be two people, drill, and all equipment needed to perform drilling operations.
5. Drilling will not be required during the months of January and February, unless agreed to by the firm in their proposal.
6. Drilling and sampling procedures, materials, and all items necessary to complete the work shall meet the specifications as outlined in the *Geotechnical Manual*. **All split spoon samples obtained on any project shall be obtained by use of an Automatic Hammer. All Shelby Tube Samples shall be delivered to the Geotechnical Branch within 21 days from obtaining the sample. Mileage for delivering Shelby tubes will be paid at 0.58cents per mile per delivery from the firms office to the Branch. The number of deliveries will be specified in the Notice to Proceed and Boring layout per project.**
7. Firms are responsible for completing the scope of work on time. A time and/or date of completion will be established in writing for each project. If the Department delays drilling operations six months beyond the expiration date of the Notification for Drilling Services (Form TC 66- 203), the firm is not obligated to complete the scope of work.
8. The contract is effective for one year. However, the expiration date may be extended one additional year if agreeable to the Department and firm.
9. The method of payment will be made as described in Section GT-903-3 Of the *Geotechnical Manual* for: **(A)**. Mobilization of Equipment. Mobilization and demobilization of drill equipment will be paid per drill crew as follows: \$250.00 administrative fee plus \$4.00 per mile, from the drilling firms office to the project site, up to a maximum of 500 miles (round trip) A drill crew is defined as personnel, drill rig, equipment, materials, and all items necessary to drill and sample in accordance with the Specifications. Mileage will be determined using the Official Kentucky Highway Map. **(B)**. Mobilization (including demobilization) costs for a subcontracted dozer or track hoe and operator shall be paid at the hourly rate bid price, for a total of two hours for each project. The two hours applies to subcontracted dozer company only.

SCOPE CONT'D

(C). Mobilization (including demobilization) costs for a company owned dozer or track hoe and operator shall be paid as follows: \$250.00 administrative fee plus \$4.00 per mile, from the drilling firms office to the project site, up to a maximum of 500 miles (round trip) Mileage will be determined using the Official Kentucky Highway Map.

(D). Grouting intervals are paid for by price per foot and includes all labor and materials necessary to seal the hole. Grouting material shall be cement or bentonite.

(E). Drilling operations on property of the railroad, Forest Service, Corps of Engineers, etc. may require additional time and effort. Any required costs or fees (i.e., flagmen) shall be invoiced as charged. Also an administrative fee of \$1000.00 per project will be allowed for dealing with these entities. If the actual cost for dealing with these entities exceeds \$1000.00 the Department will consider payment for actual cost incurred . Sufficient documentation is required for additional payment.

(F). Mobilization (including demobilization) costs for Company-Owned Floating Equipment, shall be negotiated per project.

(G). Subcontracted Towboat and/or Barge and crew shall be paid for at invoiced cost. An administrative fee of \$1000.00 shall be allowed to cover communications with towboat/barge contractor and all necessary coordination, permits, etc., required by the Corps of Engineers and/or others.

(H). Company-Owned Towboat and/or Barge and its crew shall be negotiated per project. An administrative fee of \$1000.00 shall be allowed to cover all necessary coordination, permits, etc., required by the Corps of Engineers and/or others.

For items E, G and H if vendor cost exceeds \$1000.00 and the extra cost can be justified the extra cost may be reimbursed.

(I). Reclamation Materials are paid for at actual cost (with receipts for materials). The receipts shall only show items & cost for materials purchased & used for each individual project. These materials include the following:

1. Seed
2. Straw
3. Rock (Crushed Aggregate #57)

The following materials or others, may also be used when necessary, but will require written approval from the Department.

1. Temporary Silt Fence
2. Bag of Top Soil
3. Sheet of 3/4" Plywood
4. Pipe

Pipe-Any overhead or administrative fee for buying reclamation materials shall be included in your unit bid price for Reclamation.

SCOPE CONT'D

(J). Pavement Cores- shall be paid at the unit price per/foot. Unit bid price covers all diameter size samples (4", 6", 8" & 10"). The price shall include augering the DGA out if a tube is required in the sub-grade and back-filling the hole with asphalt or concrete.

(K). Mobilization (including demobilization) costs for a company owned water truck and operator shall be paid as follows: \$250.00 administrative fee plus \$4.00 per mile, from the drilling firms office to the project site, up to a maximum of 500 miles (round trip) Mileage will be determined using the Official Kentucky Highway Map. If water has to be purchased from a water company it shall be paid as invoiced to the Drilling Company.

On Slope Inclinator holes the backfill material will be provide by KYTC.

10. Rock cores and samples shall be delivered to the Geotechnical Branch in Frankfort, Kentucky by the drilling due date as specified in the Notification for Drilling Services (Form TC 66-203 unless otherwise specified by the Geotechnical Branch.

All logs for any type hole drilled on a project will be done in a software package called gINT, the Department will provide the data template to the Drilling firm and they are to fill it out and submit it back to the Department electronically. The Department will pay \$300.00 for each 50 hole interval as follows 0-50 holes, \$300.00; 51-150 holes, \$600.00; 151-300 holes, \$900.00; 301+ holes, \$1200.00. for the completion of logs done in g-INT. For rock cores only, the Branch wants one hard copy put in the first box of each core hole and one additional hard copy delivered with the cores.

11. Pay invoices for the work shall be submitted directly to the Geotechnical Branch, Division of Structural Design. This shall include the following where applicable:

A. Tabulation of Soil and Subsurface Quantities for Pay Estimate.

B. Cost Items for Subsurface Investigation. Authorized personnel shall sign this form.

C. Subsurface Logs- All logs shall be done in gINT using the Data Template provided by the Department.

D. Cased Observation Well Data, including 7 day water table readings.

E. Summary of Mileage for mobilization and demobilization routes from the drilling firms office to the project site, drill rig identification numbers and dates.

F. Documentation of time records for the dozer or track hoe working time. If a subcontracted dozer or track hoe is used, an invoice of subcontracted dozer or track hoe working time is required.

G. Documentation of records for reclamation activity with receipts for materials.

H. A Company invoice letter on an official letterhead signed by the responsible party, and with a Company invoice number.

The pay invoices may be submitted monthly if desired. A percent retainage fee will not be applicable to this contract. Payment will only be permitted after delivery of cores, samples, logs, observation well data, etc. Approval of the final pay invoice will only be permitted after all reclamation is completed; a review by the Department and evaluation is completed.

SCOPE CONT'D

12. The Department does not guarantee work will be assigned under this contract. The unit quantities indicated in this proposal are estimates only and are not to be implied or inferred as being guaranteed. The Department will order only those quantities required by the Project as determined by the Department.

13. Payment for labor, materials, equipment, and all items necessary to complete the work shall be made only at the contract unit prices unless otherwise stated.

14. Hole locations cannot be moved without prior approval from the Geotechnical Branch. Hole locations moved without prior approval of the Geotechnical Branch are subject to be re-drilled. The unapproved hole location will not be eligible for payment.

15. Drill crew supervisors shall be subject to the approval of the Geotechnical Branch. The company shall submit completed Drill Crew Supervisor Information for each supervisor.

16. Form TC 66-203, Notification for Drilling Services, must be signed indicating acceptance or rejection of the option and returned to the Geotechnical Branch within 7 working days. A verbal commitment must be offered within two working days. Failure to follow these procedures will result in forfeiture of the offered project.

17. Failure to comply with the General Specifications may result in cancellation of the contract in accordance with the penalty clause as outlined.

18. Bidders must be pre-qualified, provide evidence of being able to drill in all three (3) regions as indicated below, have an office within the state or have an office within 100 miles of a region being bid upon, in order to be eligible for award of contract. **Region 1**, provide evidence of having a drill rig with automatic hammer able to sample to 130 feet, and must demonstrate proficiency in mud drilling. **Region 2**, provide evidence of having a drill rig with automatic hammer able to sample 100 feet, demonstrate proficiency in mud drilling, and have at least one skid or track mounted drill rig. **Region 3**, provide evidence of having at least one skid or track mounted drill rig with automatic hammer and tooling able to do a 300-foot core hole.

SEALING GEOTECHNICAL BORE HOLES

All subsurface borings shall be completely back-filled to prevent damage to property or injury to people or animals. Sealing drill holes shall be in accordance with the Departments' plan (see attachment) with the following exceptions.

1. Drill holes within 100 feet of a private well shall be sealed with grout through the water-bearing strata (Must get department permission before hand).

By a special request of coal companies, core holes penetrating commercial coal seams shall be sealed with grout. Packers may be required.

If a firm chooses to grout any other borings the maximum payment of grouting interval will be 2 to 3 feet per boring depending on the depth of boring drilled.

SCOPE CONT'D

RECLAMATION

Reclamation of drill sites, dozer and/or track hoe roads shall be protected from erosion by utilizing grass seed and straw. The cost shall be paid by the daily 8 hour unit price for two helpers plus the material costs. A receipt of materials shall reflect the actual cost of materials. Maximum reimbursement for materials will not exceed the maximum amount outlined in the General Specifications.

Cut off trenches, water bars, or ditches may be required for long, steep grades of dozer and/or track hoe roads to prevent excessive erosion. Dozer and track hoe time required for these functions will be paid by the bid price and documented within the form for Dozer Working Time or Track Hoe Working Time.

Reclamation costs for negligent operations (cut fences, deep ruts in soft ground, crop damages, and clean up (trash) operations) are the responsibility of the firm and are not included in this item.

PLAN FOR SEALING GEOTECHNICAL BORINGS

The Groundwater protection Regulation: 401KAR 5:307 defines a bore hole as (1) "a hole drilled in the soil for exploratory or sampling purposes" and (2) a core hole as "a hole drilled for the purpose of obtaining a rock core." The Geotechnical Branch routinely drills these type holes for proposed roadway projects.

A boring plan is made for each roadway project by engineers and geologists and reviewed in the field before any drilling operations begin. If, during the field review, any contaminated areas, close proximity to water wells, springs, septic tanks, or any geologic hazards are noted, then the boring plan is altered accordingly. Most of these borings are cut out or filled over when the project is constructed.

Borings are not made by the Geotechnical Branch in areas where soil contamination is present or suspected. If contamination of any type is noted while drilling, the work is immediately stopped and the Division of Environmental Analysis is notified. Environmental Bore Holes, if deemed necessary by the Geotechnical Branch, will be furnished by certified drilling consultants.

I. BORE-HOLES

Bore-holes are made for the purpose of obtaining a soil sample or to define a rock line profile. These borings are usually made with a 4-inch auger and will normally be 5 feet or more in depth unless rock is encountered first.

The present procedure for back-filling these holes is to use drill cuttings from the hole or adjacent soils that have a texture and permeability similar to the materials encountered in the hole. The bore hole is completely filled from bottom depth to the original ground surface, and tamping or compacting of the backfill material is performed as necessary to minimize voids or backfill subsidence. Back-filling is performed in a timely manner after completion of the bore hole in order to prevent groundwater contamination.

SCOPE CONT'D

II. CORE HOLES

Core holes are made for the purpose of obtaining a rock core sample in proposed roadway locations where rock is encountered. These borings are made with a 6 inch auger from the surface to the rock line and then extended to a pre-determined depth with a 3 inch diamond core bit. The present procedure for back-filling these holes is the same as for a bore hole, except small rock fragments and soil are used to fill the hole to prevent backfill subsidence.

III. OBSERVATION WELLS

One-inch diameter PVC perforated pipe or casing is installed in holes where the water table is encountered and water table readings are needed over a period of time. Once the pipe is installed, the hole is back-filled with drill cuttings to the original ground surface. The pipes are capped to prevent the entrance of surface water.

IV. HOLES FOR INCLINOMETER CASING

Slope Incliner Casing is installed in 6-inch diameter holes to monitor slope movement. Gravel or chip stone is used to backfill around the casing to approximately 3 feet below the surface and the remainder of the hole is filled with cuttings from the boring and adjacent soil if necessary. The backfill material is sloped-off at the surface to prevent the infiltration of surface water.

V. IMPLEMENTATION, TRAINING, AND INSPECTION

The back-filling of geotechnical borings as described herein, is the current policy of the Geotechnical Branch and has already been implemented. The Groundwater Protection Plan has been explained and discussed with drillers and geotechnical personnel.

Training sessions are held with drillers on an annual basis. New employees are trained in the field under an experienced driller for one (1) year or more before they become drillers. The chief driller is responsible for the activities of the crew and works directly under the supervision of an engineer or geologist.

An engineer or geologist will make spot checks to ensure that borings have been properly back-filled in accordance with the Groundwater Protection Plan.

CONCLUSION

Borings made for the design of a roadway project are destroyed (cut out) in the cut areas and filled over with compacted soils in the embankment areas when the project is constructed. Considering the small diameter of the holes (4-6 inches) drilled by the Geotechnical branch and the extra effort made in back-filling these holes, there is little chance of any groundwater contamination resulting from geotechnical borings.

PREQUALIFICATION REQUIREMENTS

To respond to this project, the project team must be prequalified in the following areas by the date of this advertisement

GEOTECHNICAL SERVICES

- Drilling

PROPOSAL FOR GEOTECHNICAL DRILLING SERVICES ON LAND

- Evaluation Factors Form to be filled out by Firm: [Firms evaluation factors form.doc](#)
(Please submit this the evaluation factors form as part of the Response to Announcement)
- KYTC Published Rates and Production Rates Sheet for Region 1,2 & 3: [Production Rates.xlsx](#)
(The Production Rates are for information only and are not to be submitted with the Response to Announcement. These rates will be used to negotiate contract rates with the four (4) selected consultants)

PROJECT SCHEDULE & MILESTONES

RESPONSE DATE	Wednesday, May 12, 2010 4:30 p.m. E.S.T. (Frankfort time)
SELECTION COMMITTEE MEETING	May 26, 2010
NOTICE TO PROCEED	July 1, 2010
COMPLETION OF SERVICES	June 30, 2012

EVALUATION FACTORS

1. Past record of performance by firm on projects of similar type and complexity. (70 points)
2. Number of crews a firm can supply with automatic hammers, up to a maximum of three crews. (A minimum crew is considered to be two people, drill and all equipment needed to perform drilling operations. (10 points)
3. The ability for a firm to supply more than one track drill with an automatic hammer. (10 points) Firms with only one track drill with an automatic hammer (5 points).
4. Ability to provide drilling services in January and February. (10 points)
5. Consultant's Kentucky offices where work is to be performed. (2 points)
For state-funded projects, if a Selection Committee vote results in a tie between two (2) firms, one (1) of which will perform more of the work tasks in Kentucky than the other, then the former firm shall be ranked one (1) place ahead of the latter.

SELECTION COMMITTEE MEMBERS

1. Bart Asher ,PE, User Division
2. Michael Blevins, PE, User Division
3. Gary Valentine, PE, Secretary's Pool
4. Jeff Jasper, PE, Secretary's Pool
5. Jim Shipp, PE, Governor's Pool